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the Phœnicians for commerce, nor with the Philistines for art, nor with the Assyrians for war, nor with the Babylonians for general versatility, nor with the Sumerians for literary originality, nor with the Greeks for philosophy, nor, we may add, with the Anglo-Saxons for science; but, nevertheless, they thought the more profoundly in religion and the more practically in morals.² All of which goes to show that an intensification of spiritual experience more than compensates for a want of general inclusiveness.

In conclusion, let me summarize the results of this enquiry. Some principle of differentiation is necessary to mark the proper sphere of religion since one of the most conspicuous signs of modern religion is the breaking up of the traditional religious hegemony that has so long prevailed over all departments of life. Religion also must make clear her distinctive character because the conditions of definition require a positive shrinking in extension and a reduction to more precise specification. The terms in which religious concepts are expressed may be the changing phases of life of successive generations, but the field of religious interest and action can not change. We are helped in marking out the boundaries of this permanent field by the successful tendency for specialization conspicuous to-day in all directions and approved by the best intelligence. And this, in respect to religious activities, is indubitably the field of moral interests and all that makes for righteousness in character and in nationality. Here lies the impregnable stronghold of the Kingdom. From whatever planes of activity religious forces withdraw, here the retreat must ultimately halt; and within these specific lines religion must forever exercise her control. What we are beginning, then, to see is this: religion not only subscribes to and sanctions the best morality, but moral character itself is religion objectified and realized.

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NASHOTAH, WIS.

INTELLIGENCE AND INTELLECT

IT is well known that certain words and terms make a greater appeal to the mind of the public than others. Psychologists are perhaps not to be included among the public, inasmuch as they, in common with all other scientists, are supposed to select their terms and not to allow themselves to be guided by ordinary usage. But try as one will, there are certain circumstances which rule over the fate

² Cf. Laura H. Wild: *The Evolution of the Hebrew People*, Part IV *passim*.

of words and so bring it about that the one becomes a technical term and is discussed interminably in books and periodicals while the other, with just as high a pedigree, is relegated to the plane of popular parlance.

Such has happened with the two words "*intelligence*" and "*intellect*." Both are derived from a common source, *intelligere*, which, when analyzed into its components, means *to choose, to pick out* (and incidentally shows what good psychological insight the Romans were possessed of); both ran almost a parallel course since the days of the Renaissance, yet of the two, the term *intelligence* had the more eventful career, until it has even been made to turn a behavioristic somersault, while *intellect* is still the staid and dignified entity as of old, and as a result, is doomed to the traditional treatment of lexicographers and literary men.

From the very first, the word *intelligence* had the advantage in its range of applicability. The distinction drawn between *intelligence* and *intellect* in the *Dictionary of Philosophy and Psychology* is not clear-cut, though the tendency "to apply the term *intellect* more especially to the capacity for conceptual thinking" is noted. The delineation of the same term in the *Encyclopedia Britannica* is carried out along similar lines. "A man is described as 'intellectual' generally because he is occupied with theory and principles rather than with practise, often with the further implication that his theories are concerned mainly with abstract matters; he is aloof from the world, and especially is a man of training and culture who cares little for the ordinary pleasures of sense." It must appear evident to most readers that such a description of the intellectual man does not provide us with the cues for discriminating between *intelligence* and *intellect*, and at the same time draws a too sharp antithesis between two qualities which may subsist in the same individual. Bismarck, though concerned with practical matters and not a theoretician, might have been an intellectual person, even if he did not actually happen to be such. Besides, until we were able to draw the line of cleavage between the theoretical and the practical, our criterion would be of no avail. The same observation applies to the account in the *New International Encyclopedia* in which the intellectual man is said, according to current usage, to possess "special ability in dealing with the abstract and theoretical, while the intelligent man is efficient in concrete situations and practical affairs."

In his article on "Animal Intelligence" in the *Britannica*, Lloyd Morgan sets down the difference as one between *perceptual* (sensory) and *conceptual* (ideational) modes of behavior. This distinction was probably grounded in the results obtained in animal psychology, so that thanks to the labors of Romanes, the phrase "Animal

Intelligence" became one of the most widely used expressions in psychology. But in spite of its empirical background, the phrase pointed to a particular interpretation which need not necessarily be accepted, and which, furthermore, was vigorously attacked by Wasmann and Mivart.

Prof. Warren seems to think that the term intelligence, as applied to animals in the eighties and nineties, had acquired a distinctly behavioristic meaning, and points out that Thorndike, in particular, applied it to his mazes and trick fastenings. Commenting on my discussion of the relation between intelligence and behavior,¹ he writes "I have, myself, the feeling that we could very profitably revive this meaning so as to distinguish between intelligence and intellect; most of the modern mental tests are really intellect tests, that is, tests of intellectual intelligence as distinguished from the motor or skill intelligence tests which are applied to animals." It was this bit of comment which occasioned the writing of this paper, especially as there seems to be an ever-growing need of a criterion to determine which is intellect and which is intelligence, the more so because the two are regarded as correlative terms, which means that what we hold about the one will affect our view of the other, as is evidenced by the comparison of Lloyd Morgan's and Warren's views. If intellect refers to the conceptual, intelligent will involve the merely perceptual; and, if we take it that intelligence comprises all performance acts, our distinction will be one between the motor and sensory functions of man. In that case even a moron, inso-much as he is able to assimilate knowledge, may be regarded as possessing intellect.

Probably every educated person employs the two words in slightly different connections. A highly cultured person, like Carlyle or Emerson would, in all likelihood, not feel flattered to be referred to as very intelligent. To the man in the street such a recommendation would no doubt appeal as an acceptable compliment. Intelligence and intellect seem to be made of the same texture, but differ in their degree of complexity. This distinction, however, is not always recognized by psychologists. Thus, Thorndike in his *Animal Intelligence* speaks of animal intellect² as evidently an interchangeable mode of expression for animal intelligence, while most intelligence testers, as Warren observes, are really occupying themselves, to a considerable extent, with the problem of determining the intellect of their examinees. Largely with this consideration in view, I have

¹ A. A. Roback, "Intelligence and Behavior," *Psychol. Review*, 1922, Vol. XXIX, p. 54ff.

² E. L. Thorndike, *Animal Intelligence* (1911), preface p. v. and Chapter VII.

been impelled to call my own series of tests for superior adults "mentality tests," and have explained elsewhere my reason for so doing, *viz.*, that "intelligence" has been used to "designate a much more comprehensive state of affairs. Social tact and *savoir faire*, as well as mechanical ingenuity and motor coördination, are all subsumed under the general category of intelligence. It is obvious, however, that what we can concern ourselves with here is at most the analysis of situations that are distinctly of a non-social and non-mechanical sort."³

The distinction between intelligence and intellect is a very genuine one, but it does not strike me that the essential difference lies in the fact that the one characterizes motor skill or even mechanical ingenuity and the other applies to abstract reasoning. To be sure, the term animal intelligence was in vogue among animal psychologists for a long time to designate the capacity for motor learning in infra-human subjects, but in all such cases it is my belief that the aim of the investigators was to prove that *animals possessed mind, that they were capable of understanding situations*. Such was certainly true of Romanes and Wesley Mills. The substitution of the term animal behavior for animal intelligence was due in large part to the realization that we are on slippery ground whenever the question of interpreting the mental state of an animal crops up. No assumptions are necessary—and one might add no general conclusions are forthcoming—on the basis of an animal-behavior psychology. Another reason for the shift of terms is probably the desire to break down the barrier between animal psychology and biology so that workers in the two fields might carry on their pursuits on common ground. Thorndike's book under the title of *Animal Intelligence*, which came out in 1911, was, it will be remembered, an amplification of his monograph published in 1898, when the term behavior, used in connection with animal reactions, was still waiting for Jennings, a biologist, to give it currency. Hence the somewhat conservative caption to a book which really was an influential factor in modifying the older views about animal intelligence.

The distinction then between intelligence and intellect does not appear to be primarily one between motor capacity and the power of abstraction. Intelligence is more inclusive than intellect, but, at the same time, it is marked by a certain desultoriness. It may appear in detached form. This view does not necessarily argue for the multimodality of intelligence. An individual may meet with success in almost everything he undertakes to do and yet not be classed

³ "Report on the Roback Mentality Tests at Simmons College," *Simmons College Review*, 1921, Vol. III, p. 314.

with the intellectual. What is it then that gives one the stamp of intellect? It is, to my mind, the *concatenation of the most essential intelligences into a systematic whole*—most essential for that purpose, of course—that constitutes the distinguishing feature of intellect. This quality must not be confused with what has been called creative intelligence, for a great artist or a great inventor is not necessarily a man of great intellect, nor must the distinction be viewed in the light of Stern's proper dichotomy between genius and intelligence.⁴ That mental integrity constitutes a prime condition of intellect is, to a large extent, recognized in popular parlance when we speak of Aristotle *being* a great intellect, though an ordinary man is said to *possess* intelligence. This usage is not a mere synecdoche, but represents the deep-rooted conviction of educated people which experience has taught them. Cæsar was probably more intelligent than Marcus Aurelius, but Marcus Aurelius was the greater intellect. A man may get along with people, who nevertheless is unable to understand them or appraise their merits and faults. Another may not be so successful in his dealings with the world and yet have a keen insight into affairs. The latter is the more intellectual. It is he who not only grasps a situation, though not necessarily every situation, but is also able to relate his experiences and observations to one another so as to build up a *weltanschauung* (which need not be a system of philosophy). Paradoxical as the statement may sound, it is my belief that there are cases when one knows how things are done without being able to do them himself. An intellectual man, then, will not always be thought intelligent in the accepted sense of the word, for his capacity will not comprise possibly the wide range of activities covered by intelligence, but by way of compensation, he has a great deal more to show in the upper levels of the narrower range—upper because the activities in that region presuppose a knowledge of the more common activities. The intelligent man lives in a shed extending over a vast area; the man of intellect dwells in a sky-scraper, communicating with every nook and corner of the building and aware of every happening in his abode and its bearing upon every other happening.

In short, the secret of intellect is *coördination* on a large scale. Naturally, the experiences requisite for such an activity must be plentiful, comprising not only one's own but those of many others. For this reason erudition has been considered the basis of intellect, and rightly so. The perfect type of coördination would involve an acquaintance with all the facts in every conceivable department of knowledge. The more data we have at our command in the most

⁴ W. Stern, *Psychological Methods of Testing Intelligence*, p. 4.

diverse fields of human endeavor, covering the greatest period of time, the more we approximate this ideal. It does not follow that the professional philosopher is the man of intellect par excellence, though his particular studies must surely provide him with the best opportunity for such attainment. Herder, Schopenhauer, Carlyle, and Renan, disparate as they all are from one another, seem to typify the intellectual in modern times. In general one may say that the romanticists have the advantage over the classicists in this regard because their scope extends over greater dimensions. The quality of the coördination is probably superior in the latter, but as has already been intimated, no matter how careful we are with our selection, if the wherewithals are not within our reach, the choice of the materials can not but be faulty.

The statement has been made above, and it accords with the received view, that intelligence is a more comprehensive term than intellect. But the subsequent discussion goes to show that this comprehensiveness relates to the *situations to be met with by the individual*. Now a great many of these situations are not taken into account in the adjudication of intellect, but vastly more is included instead, to wit, *the experience of the race* and its outstanding figures. The man of intellect is not called upon to settle a strike, to repair a lock, to act the affable host and the like; his task is much more enormous, for he deals with a vast body of complicated facts which he must sift and colligate and reflect on.

After setting down the criterion of intellect and intelligence, we have still to consider the constitutional difference between the two. In the man of intellect there appears to be an *urge towards systematization* which, if not lacking, is at any rate not pronounced in the intelligent person, who, to be sure, may evince an ambitious spirit, may even direct all his energies towards becoming a leader. In such an individual the "drive" towards his goal may be actually consummated, but often the means employed, the very skill exercised, betrays the want of mental integrity which is a *proprium* of intellect. The fact that single-mindedness was not always a characteristic of intellectual men—Voltaire, for instance—should not invalidate my thesis. As in everything else, deviations from a standard are to be measured in relation to the components which go to make up the criterion and treated, moreover, on a comparative basis. The flaw in Voltaire's character must indubitably have affected not only his results but his coördinating ability as well.

A. A. ROBACK.